

IN THE DRAWINGS:

Please accept the attached Replacement Sheet of formal drawings that has been amended to label Fig. 1 as Prior Art.

REMARKS:

Claims 1, 4-8, 12 and 15-29 are presented for consideration.

The Commissioner is also hereby authorized to charge Deposit Account No. 14-1431 for any additional fees which may be due under 37 C.F.R. 1.16 or 1.17, in particular the fee of \$50.00 for 2 claims beyond the 20 already paid for the small entity Applicant.

The Drawings, Title, Specification and Claims have been amended to address the Examiner's various objections and are all now believe to be in proper form.

Independent claims 1 and 19 respectively claim the two variants of the base layer (3) and the oxygen content supported by the specification at, for example, paragraph [0018] (bridging pages 4 and 5). The thickness parameters are supported, for example, at paragraph [0014] (page 4).

The dependent claims further distinguish the invention over the prior art.

Claims 1-3 have been rejected as being fully anticipated by Nishiyama (US 6,326,670) and Claims 1, 2, 6 and 8 have been rejected as being fully anticipated by Tatsumi (US 2002/0008914). Claims 1 and 19 as well as their dependent claims are believed to be novel over these references for the reasons that will be detailed later in these remarks.

Claims 1, 4 and 5 have also been rejected as being obvious from Cuomo (US 2002/0172938) in view of Nishiyama and claim 7 has been rejected as being obvious from Cuomo with Nishiyama and taken further in view Fujimori (US 2002/0108649). Here again, claims 1 and 19 as well as their dependent claims are believed to be unobvious over these reference combination for the reasons that will be detailed below.

Nishiyama teaches a semiconductor device, not a flammable product and the titanium oxide coating is a gate insulating film for transistors and not for flame protection. The oxygen range for x is 1:1.9 or 1:2 or more which is for an electrical insulator and the film thickness is taught to be 30nm while the claimed range is not disclosed or suggested. Nishiyama also teaches an SiO_2 coating 14 between substrate and titanium oxide coating and that the titanium oxide is deposited by 380°C , which would not be possible for the flammable or heat sensitive substrate claimed. Also, a number of further treatments or coatings are performed on the titanium oxide to form the transistor (up to Fig. 36) which would render the claimed invention quite different from the Nishiyama teaching.

Tatsumi teaches a high reflection mirror on a plastic substrate, not a flame resistant coating. A number of layers are also coated: substrate/ TiO_x /Ag/ Al_2O_3 / TiO_2 , that creates a completely different layer system and no flame protection. In this reference TiO_x where $1 \leq x \leq 2$, is an undercoat functioning as an adhesion layer as is known in the art. Both of the titanium oxide coatings have a thickness of $\lambda/4$, that means both have the same thickness and optical function as opposed to the claims composition. The objective is to produce a mirror with high reflectivity and good corrosion resistance (Ag versus atmosphere). The Examiner holds on page 9 of the action that Tatsumi discloses use of a composite material with a plastic substrate to increase the thermal stability and flame inhibition of polymer materials. This cannot be found in Tatsumi, however. On the contrary, Tatsumi proposes to run (even for an Ag coating) the process without heating the plastic substrate [0038 and 0049]. This has nothing to do with protecting the heat sensitive

substrate from hot flames with a coated layer system as claimed here.

Cuomo teaches bio-detectors [0002] that are a completely different type of product and application, with a non-adsorbing surface [0016] and a coating that includes N and C (no ceramic material as needed for flame protection). Anatase is clearly not disclosed. The layer configuration corresponding to the invention with it's needed compositions are clearly not disclosed in Cuomo. Accordingly a combination of Cuomo and Nishiyama cannot render any of the claims now presented obvious.


Fujimori teaches a solar cell product where the substrate is glass, ceramic, metallic, polycarbonate etc. (nothing is disclosed about protecting a flammable substrate with a specific coating). The substrate is covered with a electrode layer, a barrier layer of TiO_2 , and a back electrode layer that is a typical solar cell arrangement and completely different from the claimed invention so that the addition of Fujimori to the combination of Cuomo and Nishiyama would like-wise not reach the claimed invention in an obvious manner.

Anatase is mentioned among others as Rutil type. However, it is not disclosed to use it at the surface of the total coating. It has a different electrical function in the system (solar cell). With the presented process heat treatment is proposed up to 480°C [0282] so that the use of a flammable substrate is not possible of obvious.

Accordingly, the application and claims are believed to be in condition for allowance, and favorable action is respectfully requested.

If any issues remain which may be resolved by telephone, the Examiner is respectfully invited to contact the undersigned at the number below.

Respectfully submitted,



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